

III. Remarks

Reconsideration and re-examination of this application in view of the above amendments and the following remarks is herein requested. Claims 1-3, 5, 7, 9, 11, 18-24, and 31-32 are now pending in the application, and claims 4, 6, 8, 10, 12-17, and 25-30 have been cancelled. Claims 1 and 18 have been amended, and claims 31-32 have been added. Support for the above amendments may be found in the specification as originally filed.

In the Specification

Paragraph [0021] has been amended to correct a minor clerical error in equation (8). Entry of this amendment is respectfully requested.

Rejections Under 35 U.S.C. § 103

Pending claims 1-3, 5, 7, 9, 11 and 18-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pub. No. 2005/0149240 to Tseng et al. (Tseng), in view of U.S. Pat. No. 4,601,206 issued to Watson (Watson). This rejection is respectfully traversed.

Applicants respectfully assert that Tseng and Watson, even in combination, fail to teach each and every element of the invention as recited in currently amended independent claims 1 and 18.

For example, independent claim 1, from which claims 2, 3, 5, 7, 9, and 11 depend, includes a filter configured to process at least one set of linear acceleration signals (that it receives from linear accelerometers measuring in the same direction) into at least one of a roll rate, a roll angle, and a yaw rate based on at least one of

the following equations: a) $A_{y,meas} = \ddot{y}_v + \dot{r}_v d_{xtoYA} + \ddot{\theta}_v d_{ztoRA} + r_v u$; b) $A_{z,meas} = -g + \ddot{\theta}_v d_{ytoRA}$; and c) $A_{x,meas} = -\dot{r}_v d_{ytoYA}$.

Tseng fails to teach, suggest, or disclose a filter configured to process a set of linear acceleration signals into at least one of a roll rate, a roll angle, and a yaw rate based on at least one of the three equations above, and Tseng fails to teach, suggest, or disclose a set of linear acceleration signals measuring in the same direction. Tseng uses angular rate sensors to determine angular acceleration, which is typical in the art.

Applicants respectfully assert that Watson also lacks any teaching, suggestion, or disclosure of a filter configured to process a set of linear acceleration signals into at least one of a roll rate, a roll angle, and a yaw rate based on at least one of the equations above. To the contrary, Watson determines angular acceleration by disposing two accelerometers 15 and 15' equi-distantly from each side of the center of gravity and subtracting their values. (Watson, col. 3, lines 27-48.)

Furthermore, currently amended independent claim 18 recites that the first and second linear accelerometers are located at distances from the center of gravity of the vehicle that are unequal, and the third and fourth linear accelerometer are located at distances from the center of gravity of the vehicle that are unequal. Tseng fails to teach such limitation in its written description and figures; Tseng does not teach, suggest, or disclose a set of linear acceleration signals measuring in the same direction. Moreover, Watson fails to teach such limitations in its written description and figures, as Watson teaches that the sets of accelerometers measuring along the same direction are located equidistant from the center of gravity of the vehicle.

In view of the foregoing, Applicants respectfully submit that even if Tseng and Watson were properly combinable, Tseng and Watson in combination fail to teach each and every element of the present invention, as set forth in claims 1 and 18. Accordingly, Applicants respectfully submit that independent claim 1, and claims 2, 3, 5, 7, 9, and 11 dependent therefrom, and independent claim 18, and claims 19-24 dependent therefrom, are in condition for allowance, for at least these reasons. Therefore, reconsideration and withdrawal of the rejection is respectfully requested.

New claims 31-32

New claim 31 depends from claim 1, and therefore, claim 31 is allowable for at least the reasons given above. New claim 32 depends from claim 18, and therefore, claim 32 is allowable for at least the reasons given above.

Conclusion

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot, and that pending claims 1-3, 5, 7, 9, 11, 18-24 and 31-32, as amended, are patentable. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections, as well as the restriction requirement. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned at (734) 302-6022.

Respectfully submitted,

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Date

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